

Title: NON-BACTERIAL CLONING IN DELIVERY AND

EXPRESSION OF NUCLEIC ACIDS

USSN 09/601,997, Filed 12/15/00

Docket No. 24743-2307US, Keck et al,

Figure 1A

**Synthetic Oligonucleotide DNA Family Encoding
Anti-Green Fluorescent Protein Ribozymes**

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- | | | | | | | | | | | | | |
|----|----|-----------|---|-----|-----|-----|-----|-----|-----|-----|-----|-------------|
| 1) | 5' | -CCAGGCTC | C | TGA | TGA | GTC | CGT | GAG | GAC | GAC | GAA | ACCGGGA-3' |
| | 3' | -GGTCGAG | G | ACT | ACT | CAG | GCA | CTC | CTG | CTG | CTT | TGGTCCT-5' |
| 2) | 5' | -GGCCGTT | C | TGA | TGA | GTC | CGT | GAG | GAC | GAC | GAA | ACGTGCC-3' |
| | 3' | -CCGGCAA | G | ACT | ACT | CAG | GCA | CTC | CTG | CTG | CTT | TGCAGCG-5' |
| 3) | 5' | -CTCGCCG | C | TGA | TGA | GTC | CGT | GAG | GAC | GAC | GAA | ACACCGCT-3' |
| | 3' | -GAGGGCG | G | ACT | ACT | CAG | GCA | CTC | CTG | CTG | CTT | TGTGGCA-5' |
| 4) | 5' | -GCAGATG | C | TGA | TGA | GTC | CGT | GAG | GAC | GAC | GAA | ACTTCAG-3' |
| | 3' | -CGTCTAC | G | ACT | ACT | CAG | GCA | CTC | CTG | CTG | CTT | TGAAGTC-5' |
| 5) | 5' | -TGGTCAC | C | TGA | TGA | GTC | CGT | GAG | GAC | GAC | GAA | AGGGTGG-3' |
| | 3' | -ACCAGTG | G | ACT | ACT | CAG | GCA | CTC | CTG | CTG | CTT | TCCCACCC-5' |
| 6) | 5' | -AGCGGCT | C | TGA | TGA | GTC | CGT | GAG | GAC | GAC | GAA | AGGCACT-3' |
| | 3' | -TCCCGGA | G | ACT | ACT | CAG | GCA | CTC | CTG | CTG | CTT | TCCGTGA-5' |
| 7) | 5' | -CATGGCG | C | TGA | TGA | GTC | CGT | GAG | GAC | GAC | GAA | ACTTGAA-3' |
| | 3' | -GTACCGC | G | ACT | ACT | CAG | GCA | CTC | CTG | CTG | CTT | TGAACTT-5' |
| 8) | 5' | -GCTCCTG | C | TGA | TGA | GTC | CGT | GAG | GAC | GAC | GAA | ACGTAGC-3' |
| | 3' | -CGAGGAC | G | ACT | ACT | CAG | GCA | CTC | CTG | CTG | CTT | TGCATCG-5' |
| 9) | 5' | -CGTCCTT | C | TGA | TGA | GTC | CGT | GAG | GAC | GAC | GAA | AAGAAGA-3' |
| | 3' | -GCAGGAA | G | ACT | ACT | CAG | GCA | CTC | CTG | CTG | CTT | TTCTCT-5' |
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Figure 1B

**Synthetic Oligonucleotide DNA Family Encoding
Anti-Green Fluorescent Protein Ribozymes**

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- | | | |
|-----|----|--|
| 10) | 5' | -CGCCCTC C TGA TGA GTC CGT GAG GAC GAA AACTTCA-3' |
| | 3' | -GCGGGAG G ACT ACT CAG GCA CTC CTG CTT TTGAACT-5' |
| 11) | 5' | -TGCGGTT C TGA TGA GTC CGT GAG GAC GAA ACCAGGG-3' |
| | 3' | -ACGCCAA G ACT ACT CAG GCA CTC CTG CTT TGTTCCC-5' |
| 12) | 5' | -CCTCCTT C TGA TGA GTC CGT GAG GAC GAA AAGTCGA-3' |
| | 3' | -GGAGGAA G ACT ACT CAG GCA CTC CTG CTT TTCAGCT-5' |
| 13) | 5' | -GTAGTTG C TGA TGA GTC CGT GAG GAC GAA ACTCCAG-3' |
| | 3' | -CATCAAC G ACT ACT CAG GCA CTC CTG CTT TGAGGTC-5' |
| 14) | 5' | -TGATATA C TGA TGA GTC CGT GAG GAC GAA ACGTTGT-3' |
| | 3' | -ACTATAT G ACT ACT CAG GCA CTC CTG CTT TGCAAACA-5' |
| 15) | 5' | -GGATCTT C TGA TGA GTC CGT GAG GAC GAA AAGTTCA-3' |
| | 3' | -CCTAGAA G ACT ACT CAG GCA CTC CTG CTT TTCAAGT-5' |
| 16) | 5' | -GGTCGGC C TGA TGA GTC CGT GAG GAC GAA AGCTGCA-3' |
| | 3' | -CCAGCCG G ACT ACT CAG GCA CTC CTG CTT TCGACGT-5' |
| 17) | 5' | -GCAGGCAG C TGA TGA GTC CGT GAG GAC GAA ACGGGGC-3' |
| | 3' | -CGTCGTC G ACT ACT CAG GCA CTC CTG CTT TGCCCCG-5' |
| 18) | 5' | -CAGGGCG C TGA TGA GTC CGT GAG GAC GAA ACTGGGT-3' |
| | 3' | -GTCCCCGC G ACT ACT CAG GCA CTC CTG CTT TGACCCA-5' |
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Figure 1C

Synthetic Oligonucleotide DNA Family Encoding
Anti-Green Fluorescent Protein Ribozymes

19) 5' -CCAGCGAG C TGA TGA GTC CGT GAG GAC GAA ACCATGT -3'
3' -GGTCGTC G ACT ACT CAG GCA CTC CTG CTG CTT TGGTACA -5'

20) 5' -CCATGCC C TGA TGA GTC CGT GAG GAC GAA AGAGTGA -3'
3' -GGTACGG G ACT ACT CAG GCA CTC CTG CTG CTT TCTCACT -5'

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A.

pGEM-Sca/Pvu
pGEM-oligo1/3

AGT ACT TTC GGC ATC ACT GCC TCA TCA TCA GCT GGG
AAG CTT TTC GGC ATC ACT GCC TCA TCA TCA AGA ATT CGG

B.

pGEMEX-Sma/Kpn

GCC AGT ACC GAT GGA GGC AGT GAT GCC GAA CCC GGG GGC CCG
CGG TCA TGG GCT ACT CCG TCA CTA CGG CTT GGG CCC CCG GGC

pGEMEX-oligo2/3

CCG AAT TCT TGA TGA GGC AGT GAT GCC GAA AAG CTT GGC CCG
GGC TTA AGA ACT ACT CCG TCA CTA CGG CTT TTC GAA CGG GGC

Fig. 2

Clone 1: CGG GCC AAG CTT TTC GGC ATC ACT GCC TCA TCA GGA ATT CGG CCG CAT GCA
Clone 2: CGG GCC AAG CTT TTC GGC ATC ACT GCC TCA TCA GGA ATT CGG CCG CAT GCA
Clone 3: CGG GCC AAG CTT TTC GGC ATC ACT GCC TCA TCA GGA ATT CGG CCG CAT GCA
pGEMEX: CGG GCC CTC TAG ATG

Fig. 3

Clone 1: GGC CTG CAA AGC TTT TCG GCA TCA CCT CAT CAG GAA TTC GGC CTG CAT AAG CTT
Clone 2: GGC TG CAA AGC TTT TCG GCA TCA CCT CAT CAG GAA TTC GGC CTG CAT AAG CTT
Clone 3: GGC CTG CAA AGC TTT TCG GCA TCA CCT CAT CAG GAA TTC GGC CTG CAT AAG CTT
pGEMEX: GGC CGC A

Fig. 4